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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,117	03/27/2001	Michael S. Choi	06558.011001	1929

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EXAMINER

KRECK, JOHN J

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 10/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,117

Applicant(s)

CHOI, ET AL.

Examiner

John Kreck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The amendment dated 7/29/02 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 3, 4, 22, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hix, Jr. (U.S. Patent number 3,835,653).

Hix shows an oil storage and off take system comprising a storage tank attachable to a seabed and adapted to store hydrocarbons; at least one fluid channel (44) having a first end inside the bottom of the tank and a second end in communication with seawater; at least one offload line (18) having a first end coupled to the tank and a second end adapted to be coupled to a tanker and accessible from the surface; and at least one hawser (26) having a first end coupled to the tank and a second end adapted to be accessible from the surface and attachable to a tanker as called for in claim 1.

Hix also shows the tank adapted to store oil on water as called for in claim 2.

Hix also shows the second end disposed away from the seabed as called for in claim 3.

Hix also shows the offload having a substantially rigid lower portion and a flexible upper portion as called for in claim 4.

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Hix also shows the weighing material (see col. 2, line 14) sufficient to overcome buoyant forces as called for in claim 22.

Regarding independent claim 30:

Hix shows an oil storage and off take system comprising a storage tank attachable to a seabed and adapted to store hydrocarbons; at least one offload line having a first end coupled to the tank and a second end adapted to be coupled to a tanker and accessible from the surface; and at least one hawser (26) having a first end coupled to the tank and a second end adapted to be accessible from the surface and attachable to a tanker as called for in claim 30.

2. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Manning (U.S. Patent number 3,479,673).

Manning teaches an oil storage and off take system comprising a storage tank attachable to the seabed (12); at least one offload line; and at least one hawser (68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 17-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning (U.S. Patent number 3,479,673) in view of Hix, Jr.

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Manning teaches an oil storage and off take system comprising a storage tank attachable to the seabed (12); at least one offload line; and at least one hawser.

Manning fails to teach the fluid channel in communication with the seawater. It is well known in the art of ocean engineering to equip undersea oil storage tanks with seawater intakes, in order to keep pressure within the tank equalized, and thus to reduce construction costs at great depths. Hix shows this, for example.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Manning tank to have at least one fluid channel having a first end in the tank and a second end in communication with seawater as called for in claim 1; in order to keep pressure within the tank equalized, and thus to reduce construction costs at great depths.

With regards to claim 2; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have made the tank adapted to store oil on water, in order to keep pressure within the tank equalized.

With regards to claim 3; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have made the fluid channel at a location away from the seabed, in order to keep sediment out of the tank.

Manning also shows the rigid lower portion and flexible upper portion as called for in claim 4.

Manning also shows the top tensioned riser as called for in claim 5.

Manning also shows the subsurface buoyant device as called for in claim 6.

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Manning also shows the flexible line coupled proximal one end to a surface buoyant device as called for in claim 7.

Manning also shows the first end of the hawser coupled to the riser and the second end coupled to the surface buoyant device as called for in claim 8.

Manning also shows the hawser coupled to the subsurface buoyant device as called for in claim 9.

Manning also shows the coupling device (24) as called for in claim 10.

Manning also shows the hose as called for in claim 11.

Manning also shows the subsurface buoyant device located at a depth below the water surface substantially unaffected by waves and surface currents of a selected storm magnitude (for example, a storm magnitude of "0") as called for in claim 12.

With regards to claim 17; Manning shows the opening (near 106).

With regards to claim 18; Manning shows the coupling above the subsurface buoyant device; however, it would have been obvious to one of ordinary skill in the art at the time of the invention to have located the coupling between the buoyant device and the riser as called for in claim 18, in order to reduce stress on the riser.

Manning also shows the coupling device (24) as called for in claim 19.

With regards to claim 20; Manning fails to show the weighting material. Hix teaches the use of such weighting material, in order to prevent the tank from drifting. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a weighting material as called for in claim 20, in order to prevent the tank from drifting.

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With regards to claim 21, it would have been obvious to one of ordinary skill in the art at the time of the invention to have use sand, because sand is inexpensive and easy to handle.

With regards to claim 22; Manning fails to show the weighting material. Hix teaches the use of such weighting material, in order to prevent the tank from drifting. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a weighting material as called for in claim 22, in order to prevent the tank from drifting.

With regards to claims 24-26; Manning fails to teach the capacity or size; however it is well known to construct tanks based on expected operating parameters; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the tank greater than 500,000 barrels as called for in claim 24; or greater than 750,000 barrels as called for in claim 25; or 200 feet by 200 feet and 150 feet tall as called for in claim 26.

4. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning and Dix as applied to claim 12 above, and further in view of Braud, et al. (U.S. Patent number 5,816,183).

Mannind fails to teach the buoy below a depth substantially unaffected by storms.

Braud teaches a similar system which has a submerged buoy to protect it from wave action. It is apparent that the depth of the buoy is dependent upon expected wave conditions.

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It would have been further obvious to one of ordinary skill in the art at the time of the invention to have the subsurface buoyant device at a depth substantially unaffected by waves of a 1-year storm magnitude as called for in claim 13; or a 10-year storm as called for in claim 14; in order to prevent storm damage. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the subsurface buoyant device at least 50 feet below the surface as called for in claim 15, or 200 feet below the surface as called for in claim 16, in order to prevent storm damage.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manning and Dix as applied to claim 1 above, and further in view of Phelps (U.S. Patent number 3,645,415).

Manning fails to disclose the web framed steel construction. Web framed steel construction is known for use constructing tanks, because it is durable. It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the tank form web framed steel as called for in claim 23, in order to make it durable.

6. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hix, Jr. in view of Anderson (U.S. Patent number 4,273,066).

Hix teaches an oil storage and off take system comprising a storage tank; at least one fluid channel in communication with the environment outside the tank and weighting material inside the tank. Hix shows a connection to the surface at 38, but fails to show any details such as tensioned riser, hawser, and coupling device.

Anderson shows a system for transporting oil from an underwater location to a tanker. (see figures 4 and 7a) The Anderson system includes a tensioned riser (32)

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coupled to a subsurface buoy (41); a flexible hose (44) in communication with the riser, the hose having a first end coupled to the riser and a second end coupled to a surface buoy (Col. 14, lines 20-40); a hawser having a first end coupled to the second end of the riser and a second end coupled to the surface buoy (Col. 14, lines 20-40), the hawser having a length less than the hose; and at least one coupling device (39) between the riser and hose to allow rotation. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Hix system to have included the tensioned riser; hose; mooring chain; surface buoy; and coupling device, as called for in claim 27, and as taught by Anderson, in order to allow the oil to be loaded onto a tanker.

With regards to claim 28, Hix teaches concrete (40) which comprises sand.

With regards to claim 29; Hix fails to teach the capacity or size; however it is well known to construct tanks based on expected operating parameters; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the tank 200 feet by 200 feet and 150 feet tall and having a capacity of about 750000 barrels as called for in claim 29.

Response to Arguments

Applicant's arguments filed 7/29/02 have been fully considered but they are not persuasive.

7. With regards to applicant's arguments concerning the 102 rejection over Hix; Hix clearly shows the offload line (18). Although it is true that Hix fails to disclose a "tanker",

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the tanker is not claimed. The claim specifically calls for the "second end adapted to be fluid coupled to a tanker". Since Hix discloses that the purpose of the line is "to enable petroleum products, such as oil, stored in the tank 10 to be withdrawn"; it is inherently "adapted" to be fluid coupled to a tanker. One could easily couple the line to a tanker, by a pipeline and tanker loading dock, for example. With regards to the hawser, it is true that Hix does not anticipate the use of the cables (26) to attach the tank to a tanker; however, the claim does not specifically call for the tanker to be connected to the hawser; only for the hawser to be "adapted" to be "attachable to the tanker". One could easily attach the cables (26) to a tanker, by a conventional anchor, for example.

8. With regards to the 103 rejection over Manning and Hix; applicant's arguments that the claimed invention is "simpler" than the Manning system are not persuasive. It is noted that the claims use the open ended language "comprising". The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified

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ingredients even in major amounts"). See MPEP 2111.03. Furthermore, the rejection set forth above does not require any removal of the boom structure of Manning.

With regards to the hawser; manning clearly shows the hawser (68), which is clearly coupled to the tank (via 66, 64, 56, 36, 22, 19, 10, 18, 14, and 15); and attachable to a tanker (the tanker attachment is clearly shown in figure 1).

9. With regards to the rejections under 103 further in view of the Braud and Phelps references; it is noted that applicant has not made any further substantive arguments.

10. Regarding the 103 rejection over Hix and Anderson; applicant's arguments that Hix does not teach the connection to the surface are not persuasive. First, it is inherent that the connection goes to the surface, since that is where petroleum is used. Second, the rejection is based on the modification in view of Anderson, who explicitly teaches the surface.

In response to applicant's argument that the Hix and Anderson references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are in the petroleum field.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

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USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3597 for regular communications and (703)305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

JJK
October 4, 2002


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